

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 F16J15/34 F16L23/032

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 F16J F16L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 37 00 125 A (SCHULZ & CO KG) 11 May 1988 (1988-05-11)	1-12
Y	the whole document	13-15
X	DE 28 53 722 A (SCHULZ WILHELM) 26 June 1980 (1980-06-26)	1-11
A	the whole document	12-15
X	DE 28 38 514 A (SCHULZ WILHELM) 20 March 1980 (1980-03-20)	1-11
A	claims 1-12; figures 1-3	12-15
X	DE 78 26 242 U (SCHULZ, W.) 10 April 1980 (1980-04-10)	1-11
	page 7, paragraphs 3,4; figures 1-3; examples 1-3	

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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- *&* document member of the same patent family

Date of the actual completion of the international search

5 September 2003

Date of mailing of the international search report

18/09/2003

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 837 345 C (ADALBERT KOSIK) 28 April 1952 (1952-04-28)	1
A	page 2, line 18-101 ----	2-15
X	DE 858 915 C (ADALBERT KOSIK KELHEIM) 11 December 1952 (1952-12-11)	1
A	page 1, line 17 -page 2, line 120 ----	2-15
Y	US 6 210 107 B1 (HOSANNA RICHARD ET AL) 3 April 2001 (2001-04-03) figures 1-4 ----	13-15
Y	US 5 217 234 A (HORNSBY JOHN) 8 June 1993 (1993-06-08) figures 1-10 ----	13-15
A	US 4 484 771 A (SCHULZ WILHELM) 27 November 1984 (1984-11-27) column 5, line 4 -column 6, line 53 -----	1-15

SUBSTITUTE SHEET (RULE 26)

Application No
PCT/GB 03/02688

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 3700125	A	11-05-1988	DE 3700125 A1	11-05-1988
DE 2853722	A	26-06-1980	DE 2853722 A1	26-06-1980
DE 2838514	A	20-03-1980	DE 2838514 A1	20-03-1980
DE 7826242	U	10-04-1980	DE 7826242 U1	10-04-1980
DE 837345	C	28-04-1952	NONE	
DE 858915	C	11-12-1952	NONE	
US 6210107	B1	03-04-2001	US 5249812 A	05-10-1993
			AT 134029 T	15-02-1996
			AU 637462 B2	27-05-1993
			AU 7262891 A	12-09-1991
			BR 9100980 A	05-11-1991
			CA 2037966 A1	13-09-1991
			CN 1056925 A , B	11-12-1991
			DE 69116906 D1	21-03-1996
			DE 69116906 T2	20-06-1996
			EP 0447898 A2	25-09-1991
			IE 910764 A1	25-09-1991
			JP 5033871 A	09-02-1993
			ZA 9101769 A	24-12-1991
US 5217234	A	08-06-1993	NONE	
US 4484771	A	27-11-1984	EP 0054574 A1	30-06-1982
			DE 3068475 D1	09-08-1984